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I, KAY WARD TEAM LEADER EXAMINATION SUPPORT & SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. PP 7244 for a patent by UNIQUE BEVERAGES PTY LTD filed on 23 November 1998.



WITNESS my hand this  
Twenty-third day of December 1999

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# **PROVISIONAL SPECIFICATION**

Invention Title:      **Frozen alcoholic beverages**

The invention is described in the following statement:

## FROZEN ALCOHOLIC BEVERAGES

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The present invention relates to frozen alcoholic beverages and processes for their preparation, in particular frozen alcoholic cocktails which can be used in hotels, pubs, night clubs, discos or other licensed venues.

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It is difficult to freeze alcohol and produce a crystalline product. When alcohol is frozen either with or without a mixer, a non-crystalline gum is obtained. There is also a problem with packaging alcoholic products as the alcohol has a tendency to degrade most packaging materials.

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An existing alcoholic product which is in a non-liquid form is a product known as "Jellignite". This product is in the form of a jelly which is prepared by mixing jelly crystals with alcohol.

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A requirement accordingly exists for an alcoholic beverage which can be frozen to a crystalline form.

According to one aspect of the present invention there is provided a freezable alcoholic beverage which comprises alcohol, a mixer and a stabiliser.

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The present invention also provides a frozen alcoholic beverage which comprises alcohol, a mixer and a stabiliser.

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The alcohol may include wine, spirits or liqueurs. Suitable wines include red wine, white wine and champagne. Examples of spirits include whisky such as Scotch whisky, Irish whisky, Canadian whisky, bourbon, Tennessee whisky, American Blended whisky, Japanese whisky or Australian whisky, gin, vodka, tequila, brandy, rum and sake. Suitable liqueurs include fruit-based liqueurs, for example, advocaat, apricot brandy, blackberry brandy, blackberry liqueur, cherry brandy, cointreau, creme de banana, creme de cassis, creme de fraises, creme de framboises, curacao, drambuie, grand marnier, kirsch, maraschino, midori, parfait amour, peach brandy, sabra or southern comfort, herb-based

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liqueurs, for example, benedictine, bitters, chartreuse, creme de menthe or kummel and

plant and nut-based liqueurs, for example, amaretto, anisette, creme de cacao, galliano, goldwasser, kahlua, ouzo, pernod, sambuca or tia maria (many of which are Registered Trade Marks).

5 The mixer may be water or dairy based. Suitable water based mixers include water *per se*, mineral water, soda water, tonic water, bitter lemon, dry ginger ale, cordial, soft drink such as cola, raspberry or lemonade and fruit or vegetable juices such as orange juice, pineapple juice, lime juice, lemon juice or tomato juice. Examples of dairy based mixers include milk, cream and yoghurt.

10 The stabiliser is preferably selected so that when the beverage is frozen an edible ice or ice-cream product is formed which is pleasant to the mouth. It has been surprisingly found that suitable stabilisers include vegetable gums such as those known as NP 3500 Guar Gum (vegetable gum 412) and NP 217LBG (derived from locust bean gum and known as vegetable gum 410) supplied by Germantown International Limited. Others  
15 which may be used include Mexpectin LC910 or RI461(Registered Trade Mark) and xanthan gum, for example, Keltrol GM (Registered Trade Mark).

It will be appreciated that one or more other known food additives such as colorants, flavorants, sweeteners, for example, citric acid, modified fats, air or emulsifying,  
20 gelling, thickening, anti-foaming or firming agents may be included in the beverage. In particular, the use of alcohol flavorants may be advantageous to reduce the amount of alcohol present in the beverage and assist in the freezing process.

The beverage may also include fruit which can add colour, flavour and thickness.  
25 Suitable fruits for this purpose include apples, apricots, avocados, bananas, cherries, grapefruit, lemon, limes, mandarins, mangoes, melons, oranges, passionfruit, peaches, pears, pineapples, raspberries and strawberries.

In a particularly preferred embodiment, the beverage comprises alcohol, a mixer,  
30 guar gum and locust bean gum.

According to another aspect of the present invention there is provided a process for the preparation of a freezable alcoholic beverage which comprises mixing alcohol, a mixer and a stabiliser for a time and under conditions sufficient for the stabiliser to be dissolved.  
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The mixing may be achieved by using any suitable known technique, such as, for example, agitation.

The beverage is advantageously stored in a package and frozen until the time of consumption. The package is preferably composed of a material which is not substantially degraded, when the beverage is frozen or liquid, and impermeable to alcohol. Suitable materials include foil and plastic, for example, a nylon/polyethylene extrusion laminate  
5 (available from WR Grace Australia Ltd ACN 004 207 532 as product R0179).

Thus, the present invention also provides a frozen alcoholic product which comprises a freezable alcoholic beverage as defined above contained in a package.

10 The term "package" is used herein in its broadest sense and includes any means for containing the beverage such as a parcel, film, container, box or bag. The package is generally sealed so as to prevent leakage of the contents, for example, by vacuum or heat sealing. A preferred package is a sealed tube.

15 It will be appreciated that the frozen beverage may also be in the form of a confectionary product such as an ice-stick or ice-cream.

The invention will now be described with reference to the following Examples. These Examples are not to be construed as limiting the invention in any way.

20 The alcohol contents of the formulations in Examples 1 to 5 are as in the following tables. Cheaper ingredients were substituted for the alcohol in two of the varieties, namely, melon liqueur and wipeout for Midori and Malibu, respectively. The guar gum and locus bean gum were added to produce a product of acceptable texture which is sufficiently  
25 stable.

The total soluble solids content in degrees Brix as measured by a standard refractometer of the formulations in Examples 1 to 5 are as set out in the attached tables.

30 The two gums are slowly added in powder form to approximately half of the total amount of water required and mixed under agitation at an ambient temperature. Once the gums have dissolved into the water, the gum and water mixture is left to stand for a period of at least fifteen minutes. This allows the gums to hydrate before adding any of the other components. The alcohol component is then added together with the flavouring (if any).  
35 The remaining components and the remainder of the water are then added and the mixture stirred gently for five minutes to ensure complete and consistent mixing.

The formulation is then subjected to a brix reading which should be about 15°. The mixture is then packed into tubes as described above, heat sealed and frozen up to the time of consumption. Tubes of a 35ml volume have been found convenient.

- 5 Freezing stability was assessed by aiming to detect organoleptic changes in textural qualities between samples frozen for several weeks and samples thawed and refrozen repeatedly over that time. No textural changes were detected.

- 10 It is considered that a temperature of about -15°C (as found in a refrigerator freezer box) is sufficient to freeze and store the ice-stick product.

15 *Example 1 - Formulation for Vodka and Orange Frozen Alcoholic Ice Confection*

COMPONENT	SPECIFICATION	SUPPLIER	PERCENTAGE % (by weight)
Vodka	37% alc/vol, 14° brix	Karloff (brand)	16.2
Vodka flavouring (natural)	code: 9/A03731C	Dragoco Australia	0.8 to 1%
Orange fruit juice cordial	33° brix	Home Brand (supermarket)	38.6
Locust bean gum	code: LOCGUM06	Scalzo Food Industries	0.06
Guar gum	FGF-1 (very fast hydration)	Henkel	0.04
Water			44.3

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**Example 2 - Formulation for Vodka and Raspberry Frozen Alcoholic Ice Confection**

COMPONENT	SPECIFICATION	SUPPLIER	PERCENTAGE % (by weight)
Vodka	37% alc/vol, 14° brix	Karloff (brand)	16.2
Vodka flavouring (natural)	code: 9/A03731C	Dragoco Australia	0.8
Raspberry flavoured cordial	29° brix	Savings (supermarket)	43.9
Locust bean gum	code: LOCGUM06	Scalzo Food Industries	0.06
Guar gum	FGF-1 (very fast hydration)	Henkel	0.04
Water			39.0

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**Example 3 - Formulation for Scotch and Cola Frozen Alcoholic Ice Confection**

COMPONENT	SPECIFICATION	SUPPLIER	PERCENTAGE % (by weight)
Scotch Whisky	37% alc/vol, 14.5° brix	Carlton Club (brand)	16.2
Whisky flavouring (natural)	code: 6/059075	Dragoco Australia	0.4 to 0.5 or 0.6
Cola flavoured cordial	42° brix	KiaOra (supermarket)	30.1
Locust bean gum	code: LOCGUM06	Scalzo Food Industries	0.06
Guar gum	FGF-1 (very fast hydration)	Henkel	0.04
Water			53.2

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**Example 4 - Formulation for Malibu and Pineapple Frozen Alcoholic Ice Confection**

COMPONENT	SPECIFICATION	SUPPLIER	PERCENTAGE % (by weight)
Wipeout	21% alc/vol, 26° brix	Grunters (brand)	28.6
Coconut rum and pineapple flavouring	Rum flavouring 9/A04891 and pineapple flavouring 9/693148	Dragoco Australia	0.4 to 0.6
Pineapple crush fruit juice cordial	43.5°	Golden Circle (supermarket)	17.1
Locust bean gum	code: LOCGUM06	Scalzo Food Industries	0.06
Guar gum	FGF-1 (very fast hydration)	Henkel	0.04
Water			53.6 to 53.8

N.B: No flavouring is added to the product in this example.

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**Example 5 - Formulation for Midori and Lemonade Frozen Alcoholic Ice Confection**

COMPONENT	SPECIFICATION	SUPPLIER	PERCENTAGE % (by weight)
Melon liqueur	22.9% alc/vol, 38° brix	Seagram's (brand)	26.2
Melon flavouring (N.I.)	code: 6/062830	Dragoco Australia	0.4 to 0.6
Lemonade soft drink base	58.5° brix	Schweppes	8.6
Locust bean gum	code: LOCGUM06	Scalzo Food Industries	0.06
Guar gum	FGF-1 (very fast hydration)	Henkel	0.04
Water			64.7

10 It will be apparent to one skilled in the art that other flavourings could be used in further formulations of a freezable alcoholic beverage according to the invention. Other formulations of the invention could include a flavouring or drink base which is a dairy product.

15 For each of these products, their characteristics are as follows:

Brix: 15° brix (final product)

Alcohol content: 6%

Freezing temperature: <-15°C (ie, cooler than 15°C)

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It will also be understood that the term "comprises" or its grammatical variants as used herein is equivalent to the term "includes" and is not to be taken as excluding the presence of other elements or features.

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It will be understood that the invention disclosed and defined herein extends to all alternative combinations of two or more of the individual features mentioned or evident from the text. All of these different combinations constitute various alternative aspects of the invention.

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23 November 1998